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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/711,702	Applicant(s) KAWAKAMI, TATSUYA
	Examiner Vinh T. Luong	Art Unit 3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 03 June 2008.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-17 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-17 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 30 September 2004 and 03 June 2008 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/06)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application
 6) Other: _____

1. The amendment filed on June 3, 2008 has been entered.
2. Applicant's election of the species of FIGS. 10 and 11 in the reply filed on January 10, 2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse. MPEP § 818.03(a).
3. No claim is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 10, 2008.
4. The drawings were received on June 3, 2008. These drawings are not accepted by the Examiner because the replacement drawings are not in compliance with 37 CFR 1.84. Please see Form 948 attached.
5. The *original* drawings are objected to because of the reasons, e.g., listed below:
 - (a) The drawings are not in compliance with 37 CFR 1.84. See Form PTO-948 attached to the Office action on April 9, 2008;
 - (b) The drawings should show the plane upon which a sectional view, such as, FIG. 4 or 5 is taken. 37 CFR 1.84(h)(3); and
 - (c) The various parts in exploded view, such as, FIG. 3, should be embraced by a bracket in order to show their relationship. 37 CFR 1.84(h)(1).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing

should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shahana (EP 1 134 158 A2 cited as an X category reference in European Search Report).

Regarding 1, Shahana teaches a bicycle shift control device 105 which operates a shifting mechanism via a shift control cable 104, the shift control device 105 comprising:

a mounting member 103 *structured to mount the shift control device 105 to a handlebar 101*, wherein the mounting member 103 defines a handlebar mounting axis (HB, see FIGS. 1-5 of Attachment attached to the Office action on April 9, 2008 hereinafter "Att.");

a control body 170 supported by the mounting member 103 and rotatable about a rotational axis (X in Att. and abstract) for controlling the shift control cable 104;

a first operating body 220 having an abutment 201 in a position spaced apart from the control body 170 and which is coupled to the shift control device 105 for displacement between a first home position and a first shift position;

a first transmission 150 which converts the displacement of the first operating body 220 from the first home position to the first shift position into a rotational displacement of the control body 170, wherein the first transmission 150 includes a plurality of ratchet teeth 172, 173; an interface member 202, 131 movably mounted relative to the first operating body 220 and having an operating force receiving surface 203, 132 and an operating force applying surface 204,

wherein the operating force receiving surface 203, 132 is *adapted to receive an operating force from a rider*;

wherein the interface member 202, 131 pivots around a pivot axis (P, see FIG. 3 of Att.) so that the operating force applying surface 204 applies the operating force to the abutment 201 of the first operating body 220 for moving the first operating body 220 from the first home position to the first shift position;

wherein the pivot axis (P, FIG. 3 of Att.) *may or may not be inclined* relative to the handlebar mounting axis (HB in FIGS. 1-5. *Ibid.* paragraphs [0016] and [0017], and Claim 3); and

wherein the interface member 202, 131 moves in a direction toward a plane (PL, FIG. 3 of Att.) that contains the handlebar mounting axis (HB in Att.) and is parallel with the rotational axis (X) when the first operating body 220 moves from the first home position toward the first shift position.

As noted, FIGS. 1-7 of Shahana are *substantially* identical, if not identical to the species of FIGS. 1-7 of this application. In other words, Shahana teaches the first species of FIGS. 1-7 of this application. Simply put, Shahana explicitly teaches the invention claimed in generic Claim 1 of this application except the pivot axis (P) inclined relative to the handlebar mounting axis (HB).

Shahana implicitly teaches to rearrange Shahana's pivot axis (P) such that Shahana's pivot axis P is inclined relative to Shahana's handlebar mounting axis (HB) by, *e.g.*, reorientation of the mounting sleeve 103A which fits around the handlebar 101 as shown in FIG. 3 so that the rider is not required to press perpendicular to the handlebar and without precision placement of the rider's thumb. Shahana, paragraphs [0016] and [0017]. See legal precedent regarding rearrangement of parts in MPEP 2144.04.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to the pivot axis (P) of Shahana such that the pivot axis is inclined relative to the handlebar mounting axis (HB) so that the rider is not required to press perpendicular to the handlebar and without precision placement of the rider's thumb as implicitly taught or suggested by Shahana. The modification of Shahana's bicycle shift control device by rearranging the axes P and HB would not have been uniquely challenging to a person of ordinary skill in the art because it is no more than "the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement." *KSR Int'l. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) and it "does no more than yield predictable results." *KSR*, 127 S. Ct. at 1739.

Regarding Claim 2, the plurality of ratchet teeth 173 are disposed in a ratchet teeth plane T (FIGS. 3-5), and wherein the ratchet teeth plane T (FIGS. 3-5) is parallel to a horizontal axis (H in FIG. 4 of Att.). *Ibid.* Claim 4.

Regarding Claim 3, the plurality of ratchet teeth 173 are disposed in a ratchet teeth plane T (FIGS. 3-5), and wherein a path of movement of the first operating body 220 is *substantially* parallel to the ratchet teeth plane T as seen in FIGS. 3-5.

Regarding Claims 4 and 5, Shahana teaches the invention substantially as claimed. However, Shahana's pivot axis (P) is *substantially* parallel to the handlebar mounting axis (HB) and Shahana's pivot axis (P) is *substantially* perpendicular to the rotational axis (X).

It is common knowledge in the art to rearrange Shahana's axes P, HB and X such that Shahana's pivot axis P is *substantially* perpendicular to the handlebar mounting axis HB and Shahana's pivot axis P is *substantially* parallel to the rotational axis X in order to render unnecessary for the rider to press perpendicular to the handlebar and without precision placement of the rider's thumb.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange Shahana's axes such that Shahana's pivot axis is *substantially* perpendicular to the handlebar mounting axis and Shahana's pivot axis is *substantially* parallel to the rotational axis in order to render unnecessary for the rider to press perpendicular to the handlebar and without precision placement of the rider's thumb as taught or suggested by common knowledge in the art. *KSR Int'l. Co. v. Teleflex Inc.* and legal precedent regarding rearrangement of parts in MPEP 2144.04, *supra*.

Regarding Claim 6, the interface member 202, 131 comprises a lever 202 or 131.

Regarding Claim 7, the lever 202 comprises an operating force receiving member 203 extending from the pivot axis (P); and an operating force applying member 204 (FIGS. 4 and 5) extending from the operating force receiving member 203. *Ibid. abstract.*

Regarding Claim 8, the pivot axis P is disposed at a junction between the operating force receiving member 203 and the operating force applying member 204 as seen in FIGS. 3-5.

Regarding Claim 9, the lever 202 has a *substantially L* shape.

Regarding Claim 10, the operating force applying member 204 extends *substantially* perpendicular from the operating force receiving member 203 as seen in FIG. 5.

Regarding Claim 11, the first operating body 220 moves linearly between the first home position and the first shift position. *Ibid. Claims 2 and 6.*

Regarding Claim 12, the first operating body 220 moves in a straight line (i.e., linearly) between the first home position and the first shift position. *Ibid. Claims 2 and 6.*

Regarding Claim 13, see a second operating body 130 coupled to the operating device for displacement between a second home position and a second shift position; and a second transmission 160 which converts the displacement of the second operating body 130 from the second home position to the second shift position into a rotational displacement of the control body 170. See abstract and Claims 1-7.

Regarding Claim 14, the second operating body 130 rotates between the second home position and the second shift position.

Regarding Claim 15, the second operating body 130 forms a finger contact part 132 in a position spaced apart from the control body 170 (FIG. 3).

Regarding Claim 16, the second operating body 130 rotates around the rotational axis (X in Att.).

Regarding Claim 17, see regarding Claim 12 above.

8. Applicant's arguments filed June 3, 2008 have been fully considered but they are not persuasive.

First, the replacement drawings are not accepted for the reasons set forth in Form PTO-948 attached.

Second, the rejections under 35 USC 112, second paragraph, and under 35 USC 102(b) set forth in the previous Office action on April 9, 2008, are withdrawn to simplify the issues. Applicant's arguments regarding these grounds of rejections are deemed to be moot.

Third, with respect to 35 USC 103 rejection, Applicant contended:

As noted above, Shahana does *not* suggest rearranging the pivot axis (P) of the tab interface (202) so that the pivot axis (P) is inclined relative to the handlebar mounting axis (HB). *Paragraph [0016] of Shahana states that operating force receiving surface (203) of operating tab (202) is inclined relative to a horizontal axis (H)*, but that statement does not refer to pivot axis (P). *Paragraph [0017] states that the path of movement of sliding operating body (220) is substantially parallel to the plane of ratchet teeth (T), but the path may vary by plus or minus thirty degrees.* However, that has no effect on the orientation of pivot axis (P). There is no suggestion to vary the position of pivot axis (P). Furthermore, as noted above, the statement at paragraph [0025] of the applicant's specification is *not* an admission of the state of the prior art. Thus, it cannot be said that the present claims are directed to the application of a known technique to a piece of prior art ready for improvement. The present claims result in a change of function wherein the gear change operation may be accomplished at least in part by a lateral swiping motion of the operating finger or thumb, whereas the Shahana device requires a vertical swiping motion of the operating finger or thumb. A change of function of a known element is a benchmark of nonobviousness. *Shackelton, et al. v. J. Kaufman Iron Works, Inc., et al.*, 217 USPQ 98 (2nd Cir.

1982)(citing *Sakraida v. Ag Pro Inc.* 425 U.S. 273, 189 USPQ 449 (1976)). (Emphasis added).

It is well settled law that obviousness question cannot be approached on basis that skilled artisans would only know what they read in references; such artisans must be presumed to know some thing about the art apart from what the references disclose. *In re Jacoby*, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962).

The Examiner respectfully submits that although Shahana does not explicitly suggest rearranging the pivot axis (P) of the tab interface (202) so that the pivot axis (P) is inclined relative to the handlebar mounting axis (HB), however, Shahana implicitly suggests such rearrangement.

In the instant case, Applicant admitted: “*Paragraph [0016] of Shahana states that operating force receiving surface (203) of operating tab (202) is inclined relative to a horizontal axis.*” As shown in Shahana’s FIG. 3, the tab 202 is pivoted by the pivot axis 216 (i.e., the axis P of the interface 202) in the same manner as Applicant’s tab 202 in Applicant’s FIG. 3. If one makes Shahana’s tab 202 inclined relative to the horizontal axis (i.e., handlebar axis) as explicitly suggested by Shahana, one would have to reorient the axis 216 inclined therewith because the axis 216 passing through the openings formed in the tab 202.

In addition, Applicant admitted: “*Paragraph [0017] states that the path of movement of sliding operating body (220) is substantially parallel to the plane of ratchet teeth (T), but the path may vary by plus or minus thirty degrees.*” Likewise, as shown in Shahana’s FIG. 2, if one changes the path of Shahana’s operating body 220 by plus or minus 30° relative to the plane of the ratchet teeth T of the teeth 171, that path would also be inclined by plus or minus 30° relative

to the handlebar mounting axis HB because the plane of the axis HB is substantially parallel with the plane of the ratchet teeth 171 as seen in FIG. 2.

Assuming *arguendo* that Shahana does not implicitly teach the rearrangement as claimed, the Supreme Court has laid Applicant's arguments to rest by pointing out that while there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007).

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability.

For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740, 82 USPQ2d at 1396. The Examiner must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* In the instant case, Applicant's rearrangement of the axes provides no more than predictable results since the instant results are identical to the ones obtained by Applicant's embodiment of FIGS. 1-7.

With respect to the statement at paragraph [0025] of the Applicant's specification, Applicant asserted that this statement is *not* an admission of the state of the prior art. However,

note that this statement is applied to Applicant's embodiment of FIGS. 1-7 and this embodiment of FIGS. 1-7 is substantially identical, if not identical to the embodiment taught by prior art Shahana. It is well settled that similar structures are expected to behave similarly. *In re King*, 801 F.3d 1324, 231 USPQ 136 (Fed. Cir. 1986). Therefore, it is reasonably expected that the statement at paragraph [0025] of Applicant's specification is similarly applied to the embodiment taught by prior art Shahana. Indeed, as seen in FIG. 3 of Shahana, one having ordinary skill in the art may, *e.g.*, adjust the mounting sleeve 103a or the handlebar 101 upwardly or downwardly to make the pivot axis P of the interface 202 inclined relative to the handlebar mounting axis HB as claimed.

Finally, Applicant's conclusion that "A change of function of a known element is a benchmark of nonobviousness" based on *Shackelton, et al. v. J. Kaufman Iron Works, Inc., et al.* is unsupported by substantial evidence.

However, in the case at hand, Applicant does not change the function in the Shahana's device as evidenced by the exact similarities among Shahana's FIGS. 4-7 and Applicant's FIGS. 4-7. If there is a change, such change is the mere change in the orientation of the axes P and HB. It is well settled that such change by rearrangement of the orientations of Shahana's axes P and HB would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu*, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995) citing *In re Gal*, 980 F.2d 717, 719, 25 USPQ2d 1076, 1078 (Fed. Cir. 1992). Put in another fashion, such change is obviously predictable as transparently evidenced by the drawings of Applicant and Shahana, *a fortiori*, Applicant's claims are unpatentable pursuant to *KSR supra*.

Applicant further asserted:

As for claims 4 and 5, the statement that Shahana's parallel axes (P) and (HB) include the angle of "substantially 90°" is repugnant to the definitions of "parallel" and "perpendicular" and cannot be maintained. The proffered interpretation is not reasonable. Also, the statement that it is common knowledge in the art to rearrange Shahana's axes (P), (HB) and (X) such that Shahana's pivot axis (P) is substantially perpendicular to the handlebar axis has no basis. No evidence was provided to show that the feature, which is recited in claim 4, is well-known.

The Examiner respectfully submits that the term "substantially" is a relative term. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree. In fact, it is a broad term. See MPEP 2173.05(b). Here, Applicant's Claim 5 does not preclude the limitation "substantially parallel" to exclude "substantially 90°", therefore, the claimed "substantially 90°" reads on the limitation "substantially parallel" suggested by Shahana.

Notwithstanding this fact, to simplify the issue, in the instant Office action, the Examiner withdraws the statement that Shahana's parallel axes (P) and (HB) include the angle of "substantially 90°".

Applicant contended that it is common knowledge in the art to rearrange Shahana's axes (P), (HB) and (X) such that Shahana's pivot axis (P) is substantially perpendicular to the handlebar axis has no basis.

It is well settled law that the conclusion of obviousness may be made "from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference." *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969) and *KSR supra*.

In the case *sub judice*, the basis of common knowledge is Shahana's FIG. 3 or Applicant's FIG. 3. As noted, Applicant's invention is the bicycle shift control device 105 shown in FIG. 3 *per se*, not the handlebar 101. The handlebar 101 shown in FIGS. 1 and 2 is merely an environment wherein the shift control device 105 is mounted as evidenced by the phrase "a mounting member structured to mount the shift control device to a handlebar, wherein the mounting member defines a handlebar mounting axis (HB)" in Claim 1. Consequently, one can change the orientation of the mounting sleeve 103A or the handlebar 101 by rotating or adjusting it in the direction(s) as one so desires in order to have, e.g., the axis HB of the handlebar 101 substantially perpendicular to the axis P. The different orientations of the axis of the handlebar relative to the pivot axis of the interface member to accommodate the different habits of placing the hands of the cyclists on the shift device and the handlebars are notoriously well known as evidenced by the art cited. For example, see FIGS. 2 and 3 in USP 6,848,335 to Kawakami, FIG. 1 in USP 6,564,671 to Ose, and FIG. 2 in USP 6,155,132 to Yamane.

For the foregoing, Applicant's request to allow the instant case is respectfully declined as a matter of law.

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinh T. Luong whose telephone number is 571-272-7109. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vinh T Luong/
Primary Examiner, Art Unit 3682